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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Srinivas Kandala

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10/24/2005

MARGER JOHNSON & MCCOLLOM, P.C.
210 SW MORRISON STREET, SUITE 400
PORTLAND, OR 97204

EXAMINER

YANG, LINA

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 10/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,296

Applicant(s)

KANDALA, SRINIVAS

Examiner

Lina Yang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/10/05
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to applicant's communication filed 8/10/2005, in response to PTO Office Action mailed 5/17/2005. The Applicant's remarks and amendments to the claims and/or the specification were considered with the results that follow.

2. Claims 1-36 have been presented for examination in this application. In response to the last Office Action, claim 4 has been amended. No claims have been canceled. No claims have been added. As a result, claims 1-36 are now pending in this application.

Response to Arguments

3. Applicant's arguments filled 8/10/2005 have been fully considered but they are not persuasive.

The following are the responses to the applicant's arguments.

(1) Regarding claim 1 on pages 13-14.

(a) In the Applicant's system, the Hybrid Coordinator is a device which can receive contending requests from wireless stations at the expenses of each other during medium contention intervals. (see Applicant's specification, page 2, lines 25-27). The timing diagrams of Figures 2A-2B show three contention requests transmitted from each of the wireless station STAX during the medium contention (MC) period. The point coordination function (PCF) described in the Benveniste reference (see paragraphs

0038 and 0054) schedules an ending time of a time window and communicates the schedule ending time to a wireless station. However, as described in the Benveniste reference, this occurs during the use of PCF which is "a contention free centralized access protocol" (see paragraph 0038).

-In reply; in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

(b)The RTS frame disclosed in Benveniste is not the same as the contending request recited in claim 1. Claim 1 recites "contending requests for respective wireless transmission through a medium". The contending requests are reservation requests for use of medium sent from different wireless stations. The requests are contending in that they are at the expense of each other during the contention period.

-In reply, Benveniste teaches (see fig. 2F) that before a wireless station 202 sends the RTS frame to the destination station 206, the wireless station 202 has to request the permission from access point 208 (as the "centralized node"). For all those wireless stations 202 with the same priority, the requests are contending requests. After been pulled by the access point 208, one of the wireless station 202 sends the RTS frame to the destination. Thus, the contending request is inherent. And the RTS frame does result from the communication between a source and a centralized node.

(2) Regarding claim 5 on page 14.

The contention-free end frame disclosed in Benveniste is not used to notify the wireless stations to transmit contending requests. Instead, in Benveniste, the contention-free end frame is sent to notify the wireless stations to transmit CSMA/CA contention-based data frames during the contention period.

Applicant recites claim 5 in part on page 14:

transmit request to contend for the medium before the scheduled ending time pursuant to the notification.

-In reply, Examiner likes to point out that the highlighted part of the recited part in claim 5: "***transmit request to***" was not in the original claim 5. Instead, the original claim 5 recites: "contend for the medium before the scheduled ending time pursuant to the notification". And, Benveniste discloses that when the contention-free end frame 226 is received from the point coordinator 205 at time T3, the tiered contention multiple access period 218 starts, see fig. 3C and [0123].

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., ***transmit request to***) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read

into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-7, 10-16, 19-25 and 28-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Benveniste (U. S. Patent Application No. 20020163933 A1).

Regarding claims 1, 10, 19 and 28 (differ only by statutory class), Benveniste teaches a device comprising: a physical communication component (Fig. 1A and 2A; [0033] and [0118]); and a processor coupled with the physical communication component (Fig. 1A and 2A; [0033] and [0118], inherent), in which the processor is adapted to receive contending requests for respective wireless transmissions through a medium ("RTS frame"; [0042]) schedule an ending time of a time window during which subsequent contending requests are impermissible ([0054]); communicate the scheduled ending time; monitor the medium ([0054]); determine that one of the wireless transmissions through the monitored medium ended before the scheduled

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ending time (by "contention-free end frame 126" , [0054]); and communicate that subsequent contending requests are permissible even if made before the scheduled ending time ([0054]).

Regarding claims 2, 11, 20 and 29 (differ only by statutory class), Benveniste further teaches that the device is further adapted to: detect an idle time in the medium ([0046]); and compare the idle time to a preset minimum time ([0046]); and in which the wireless transmission is determined to have ended if the idle time is longer than the preset minimum time ([0046]) (in addition, all limitations are inherently satisfied for using CSMA).

Regarding claims 3, 12, 21 and 30 (differ only by statutory class), Benveniste further teaches that the device is further adapted to: start an idle counter if the medium is detected to be idle ("idle timer"; [0050]).

Regarding claims 4, 13, 22 and 31(differ only by statutory class), Benveniste further teaches that the preset minimum time equals a DIFS ([0046]).

Regarding claims 5, 14, 23 and 32(differ only by statutory class), Benveniste teaches a device comprising: a physical communication component (Fig. 1A and 2A; [0033] and [0118]); and a processor coupled with the physical communication component (Fig. 1A and 2A; [0033] and [0118] inherent), in which the processor is

adapted to receive data about a contention-free time window regarding a medium ([0054]); decode from the data a scheduled ending time of the time window ([0054] inherent); then receive notification that contention will be permitted before the scheduled ending time (by "contention-free end frame 126" in [0054]); and contend for the medium before the scheduled ending time pursuant to the notification ([0054]).

Regarding claims 6, 15, 24 and 33 (differ only by statutory class), Benveniste further teaches that the device receiving notification includes receiving and interpreting a terminating frame ([0054]).

Regarding claims 7, 16, 25 and 34 (differ only by statutory class), Benveniste further teaches that the processor is further adapted to: adjust a contention mechanism to prevent contending for the medium before the scheduled ending time ([0054] and [0058]); and pursuant to the notification readjust the contention mechanism to enable contending for the medium before the scheduled ending time ([0054]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8-9, 17-18, 26-27 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benveniste (U. S. Patent Application No. 20020163933 A1) in view of Sherman (U. S. Patent Application No. 20020150095 A1).

Regarding claims 8, 17, 26 and 35 (differ only by statutory class), Benveniste teaches that adjusting the contention mechanism includes setting a counter to count down commensurately with the scheduled ending time ([0042] and [0058]). Benveniste differs from the claimed invention in that Benveniste does not specifically teach that readjusting the contention mechanism includes advancing the counter to a smaller value. However, it is well known in the art to use Contention Free-End frame or message to reset NAV counter, for example, Sherman teaches using the Contention Free-End message to indicate the end of the period of time for suppressing transmission from other stations, such that the station within range of the signal will update the station's network allocation vector (NAV) to indicated the reset time of the network allocation vector (NAV). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to clearly incorporate readjusting the contention mechanism includes advancing the counter to a smaller value, such as the one taught by Sherman into the assembly taught by Benveniste simply in order to save the communication bandwidth and to increase the communication efficiency.

Regarding claims 9, 18, 27 and 36 (differ only by statutory class), the modified assembly of Benveniste and Sherman further teaches that the smaller value is zero (inherent by "resetting" the NAV).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lina Yang whose telephone number is (571)272-3151. The examiner can normally be reached Monday through Thursday between 8:00 a.m. and 7:00 p.m. eastern standard time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 517-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LY



HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600